Clothing and Equipment for Cold Weather and Mountain Operations

Terminal Learning Objective

Action: Properly wear issued cold weather clothing and equipment

Condition: Under field conditions where temperatures range from 70 F to -60 F

Standard: Soldier wore issued cold weather clothing and equipment properly and did not sustain a cold weather injury during the conduct of the course.

Cold Weather Uniform Should:

Keep you warm

Keep you dry

Protect you from the wind

Provide ventilation

Design Principles

Insulate: Any material that reduces the amount of heat lost to the environment

Layer: Several layers of clothing provide more insulation and flexibility than one heavy garment even if the heavy garment is as thick as the combined layers

Ventilate: Helps to maintain a comfortable body temperature by allowing excess heat to escape

Clothing Guidelines

C- ***Keep it Clean***

O- ***Avoid Overheating***

L- ***Wear clothes Loose and Layered***

D- ***Keep clothing Dry***

C- *Keep it Clean*

Dirt and grease reduce the insulating properties of clothing

Clean whenever possible

Dry rub clothing in the field

O*- *Avoid Overheating

Don't overdress

Causes excess perspiration

Dampness reduces insulating properties of clothing

Perspiration evaporates, cooling the body

L*-*Wear clothes Loose and Layered

Tight clothing restricts circulation

Restricts movement

Lessens volume of trapped air

D- Keep clothing Dry

Moisture enters from both outside and inside

Dampness lessens insulating properties of clothing

Brush snow off clothing before entering heated shelter

Air dry clothing away from direct heat source

Dry leather items slowly

Extended Cold Weather Clothing System (ECWCS)

Consists of three layers designed to reduce the weight of older clothing systems and maintain adequate environmental protection from + 40º F to - 60º F.

Inner (Wicking) Layer

Intermediate (Insulating) Layer

Outer (Protection) Layer

ECWCS: Inner (Wicking Layer)

Designed to wick moisture away from the body.

Consists of:

Polypropylene Undershirt*

Polypropylene Drawers*

Nylon Sock - Liner Sock

Wool Sock - Insulating Sock

***Polypropylene is available in lightweight, medium weight and heavy weight (standard issue)**

ECWCS: Intermediate (Insulating) Layer

Designed to trap air, providing an insulating space of warm air

Consists of:

Liners Cold Weather - Coat

Liners Cold Weather - Trousers

ECWCS: Intermediate (Insulating) Layer

Designed to trap air, providing an insulating space of warm air

Consists of:

Fiberpile Cold Weather Shirt and Bibs (Bear Suit)

ECWCS: Intermediate (Insulating) Layer

Designed to trap air, providing an insulating space of warm air

Consists of:

Pile Jacket (SPEAR LEP) – Shirt and

Medium Weight Stretch Bib Overalls (SPEAR LEP) - Overalls

ECWCS: Outer (Protection and Ventilation) Layer

Designed to provide protection (wind proof and water resistance) and ventilation when necessary

Consists of:

Parka, Extended Cold Weather (Improve water repellent qualities of Parka with NSN 8030-01-408-9446)

Trousers, Extended Cold Weather

Vapor Barrier Boots (White)

Intermediate Cold Weather Boots (ICWs)

Gortex Gloves with Brown insert gloves

Mitten Inserts, Cold Weather

Mitten Shells, Cold Weather (Trigger Finger)

Mitten Set, Extreme Cold Weather (Arctic Mitten)

Balaclava

Neck Gaiter

Suspenders

Modular Sleep System

Designed for temperatures of +30ºF to -40ºF.

Consists of:

- **Compression Sack**
- **Patrol Bag (Green) (+30ºF used alone)**
- **Intermediate Cold Weather Bag (Black) (-10ºF used alone)**
- **Vapor Permeable Bivouac Cover**

Combination of Intermediate Cold Weather Bag and Patrol Bag is rated to -30ºF

Addition of Bivouac Cover brings temperature rating to -40ºF for 4 hours of sleep.

Total system weight approximately 7 pounds

SLEEP SYSTEMS

Bag, Sleeping, Type II, Extreme Cold (two bag system)

Temperature range +10ºF to -45ºF

Temperature rating to -45ºF if booties, sleeping hood and polypropylene underwear is worn

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